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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,285	07/22/2003	Kyu Takada	15162/06020	7398

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EXAMINER

HALEY, JOSEPH R

ART UNIT PAPER NUMBER

2653

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/624,285

Applicant(s)

TAKADA ET AL.

Examiner

Joseph Haley

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8-9, 11-16, 18-22 and 24 are rejected under 35 U.S.C. 103(a) as being obvious over Kim et al. (US 2003/0095334) in view of Official Notice.

In regard to claim 1, 11 and 19, Kim et al. teaches an optical pickup apparatus comprising: a light source that oscillates light beams of different wavelengths, namely a first wavelength λ_1 , a second wavelength λ_2 , and a third wavelength λ_3 (fig. 4 elements 11, 17 and 18); a light integrator that makes the light beams of the first, second, and third wavelengths λ_1 , λ_2 , and λ_3 exit therefrom in such a way as to proceed to travel along a common optical path (fig. 4 element 14); and an objective lens that focuses light beams of different wavelengths (fig. 1 element 40), namely a first wavelength λ_1 , a second wavelength λ_2 , and a third wavelength λ_3 (see table 1), on an information recording surface formed on different types of recording medium, namely a first recording medium, a second recording medium, and a third recording medium (fig.

1 elements 50a 50b and 50c), respectively, the diffractive optical element comprising: a first diffractive surface that does not diffract the light beams of the first and third wavelengths λ_1 and λ_3 but that diffracts the light beam of the second wavelength λ_2 (fig. 1 element 25 see also paragraphs 81 and 82); and a second diffractive surface that does not diffract the light beams of the first and second wavelengths λ_1 and λ_2 but that diffracts the light beam of the third wavelength λ_3 (fig. 1 element 35 see also paragraphs 81 and 82) however; Kim does not teach this a single diffractive element.

The examiner takes Official Notice that integrating two parts into one is well known in the art.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide that apparatus of Kim with an integrated diffractive element. The rationale is as follows: At the time of invention it would have been obvious to provide that apparatus of Kim with an integrated diffractive element because the manufacture of one piece can take place more efficiently than that of two pieces ("In this case, all of the essential elements of the claims except the integration of parts, are found in the references. The unity or diversity of parts would depend more upon the choice of the manufacturer, and the convenience and availability of the machines and tools..." See In re Lockhart, 90 USPQ 214 (CCPA 1951)).

In regard to claim 2, 12 and 20, Kim et al. teaches wherein the light beams of the first, second, and third wavelengths λ_1 , λ_2 , and λ_3 have increasingly long wavelengths in order of increasing number (see table 1).

In regard to claim 3, 13 and 21, Kim et al. teaches wherein the diffractive optical element has a grating portion having a step-shaped section, differences in height of individual steps thereof producing optical path differences equal to integral multiples of λ_1 (paragraph 61 lines 5-12 and paragraph 65 lines 6-11).

In regard to claim 4 and 14, Kim et al. teaches the diffractive optical element is disposed in an optical path between a light source that emits the light beams and the objective lens (fig. 1).

In regard to claim 5 and 15, Kim et al. teaches the diffractive optical element is disposed on a light-source side of the objective lens, immediately in front of an entrance surface thereof (fig. 1).

In regard to claim 6, 16 and 22, Kim et al. teaches the light beams of the first, second, and third wavelengths λ_1 , λ_2 , and λ_3 are all parallel beams when entering the diffractive optical element (fig. 1 elements 10a 10b and 10c).

In regard to claim 8, 18, Kim et al. teaches the diffractive optical element is held in such a way that a position of the objective lens relative thereto remains fixed (the elements of Kim et al. don't move).

In regard to claim 9 and 24, Kim et al. teaches the diffractive optical element is of a continuous type in which any two adjacent level surfaces differ in height only by one step (fig. 2 see s).

In regard to claims 10 and 25, Kim et al. teaches the diffractive optical element is of a sawtooth type in which, every predetermined number of level surfaces of which

each differs in height by one step from a next, level surfaces are shifted back by a corresponding number of steps (fig. 2).

Claims 7, 17 and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. in view of Kimura et al. (US 6876501).

In regard to claims 7, 17 and 23 Kim et al. teaches all the elements of these claims except the diffractive optical element makes the light beams of the second and third wavelengths λ_2 and λ_3 that have entered the diffractive optical element exit therefrom as divergent beams.

Kimura teaches the diffractive optical element makes the light beams of the second and third wavelengths λ_2 and λ_3 that have entered the diffractive optical element exit therefrom as divergent beams (column 74 lines 11-29. While Kimura doesn't teach the diverging is done by the diffractive element Kimura shows that it is known to have a divergent beam enter the objective lens to ensure better working distance).

The two are analogous art because they both deal with the same field of invention of recording on an optical medium.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Kim et al. with the diverging beam of Kimura et al. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Kim et al. with the diverging beam of Kimura et al. because it would provide a better working distance.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

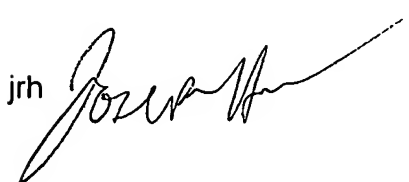
Kim et al. (US 2003/0107979) teaches the use of a divergent lens with the beam leading into the diffraction gratings.

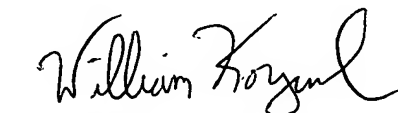
Kitaoka et al. (US 6819646) teaches the use of diffraction gratings in a high definition disc system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Haley whose telephone number is 571-272-0574. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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